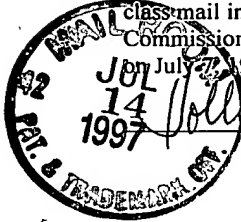


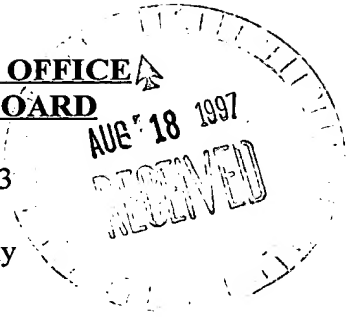
CERTIFICATE OF MAILING

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on July 22, 1997.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

Applicant: Jonathan Nimitz et al : Group Art Unit: 2203
Serial No.: 08/269,323 : Examiner: J. Anthony
Filing Date: June 30, 1994 :



For: **Fluoroiodocarbon Blends as CFC and Halon Replacements**

TRANSMITTAL OF APPEAL BRIEF

Assistant Commissioner of Patents
Washington, DC 20231

RECEIVED
AUG 12 1997
GROUP 2200

Dear Sir:

Submitted herewith in triplicate is an Appeal Brief in support of the Notice of Appeal filed May 5, 1997. Please charge the \$300.00 government fee for the filing of the present Appeal Brief to Deposit Account 04-1133.

Please charge any additional fees required or credit any excess in fees paid in connection with the present communication to Deposit Account No. 04-1133.

Respectfully submitted,

By

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2C 5/27/97 GP203

Docket No. 10807-008

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

Applicant: Jonathan Nimitz et al : Group Art Unit: 2203

Serial No.: 08/269,323 : Examiner: J. Anthony

Filing Date: June 30, 1994 :

For: **Fluoroiodocarbon Blends as CFC and Halon Replacements**

APPEAL BRIEF

Assistant Commissioner of Patents
Washington, DC 20231

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed May 5, 1997.

I. REAL PARTY IN INTEREST

The real party in interest for the present application is Ikon Corporation, a corporation of the state of Nevada, as evidenced by the Assignment recorded at Reel 7310, Frames 0264-0268 on January 24, 1995.

II. RELATED APPEALS AND INTERFERENCES

No other appeals or interferences are known to the Appellants, the Appellants' undersigned legal representative or the Assignee which will directly effect or be directly effected

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bearing on the Board's decision in the present appeal.

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III. STATUS OF THE CLAIMS

Claims 157, 158 and 160-179 are pending in this application. Claims 157, 158, 160-167, 169-175 and 177-179 stand rejected and are the subject of the present appeal. Claims 168 and 176 are objected to as being dependent upon a rejected base claim, but have been indicated as being allowable if rewritten in independent form including all the limitations of the base claims and any intervening claims. Claims 168 and 176 are therefore not the subject of the present appeal. Claims 1-156, 159 and 180-182 have been canceled. A complete copy of the pending claims on appeal is set forth in the Appendix.

IV. STATUS OF AMENDMENTS FILED SUBSEQUENT TO FINAL REJECTION

An Amendment Under 37 C.F.R. §1.116 was filed by certificate of mail on May 5, 1997. The Advisory Action dated May 27, 1997 indicated that the Amendment has not been entered.

V. SUMMARY OF THE INVENTION

As defined by independent claims 157 and 169, the fire-extinguishing methods according to the present invention comprise providing a fire-extinguishing agent consisting essentially of an azeotropic or near azeotropic blend of fluoroiodocarbon and at least one additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers, in a discharge apparatus, and discharging a fire-extinguishing amount of the agent from the discharge apparatus into contact with a combustible or flammable material. According to claims 170 and 177, the methods comprise providing a fire-extinguishing agent comprising a blend of a fluoroiodocarbon and at least one additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers, in a discharge apparatus, and discharging a fire-extinguishing amount of the agent from the discharge apparatus into contact with a combustible or flammable

material. Claims 169 and 177 each specify a group of compounds from which the fluoroiodocarbon component of the blend is selected. Dependent claims 158, 160-167, 171-175, 178 and 179 further define the fluoroiodocarbon and/or the additive of the fire-extinguishing agent.

As set forth in the present specification, for example at page 17, lines 15-32, the methods of the present invention are advantageous in that they employ effective fire-extinguishing agents which are non-ozone-depleting. The methods of claims 157 and 169, and the claims dependent thereon, are further advantageous in that use of azeotropic and near azeotropic blends permit simplified handling of the fire-extinguishing agent employed in the claimed methods and the agent does not fractionate into separate components over time.

VI. ISSUE ON APPEAL

The single issue on appeal for consideration by the Board is the rejection of claims 157, 158, 160-167, 169-175 and 177-179 under 35 U.S.C. §103(a) as being obvious over "*The Technical Report*" distributed by the Defense Technical Information Center, Alexandria, Virginia.

VII. GROUPING OF THE CLAIMS

With respect to the above-noted issue on appeal, Applicants submit that independent claims 157, 169, 170 and 177 are independently patentable from one another. Additionally, with respect to the above-noted issue on appeal, Applicants submit that claims 158, 160-167, 178 and 179 are each independently patentable over claim 157 from which they depend and that claims 171-175 are each independently patentable from claim 170 from which they depend. Reasons in support of the independent patentability of these claims is set forth hereafter.

VIII. ARGUMENTS

As will be set forth in detail below, the methods of using a fire-extinguishing agent according to claims 157, 158, 160-167, 169-175 and 177-179 are nonobvious over and patentably distinguishable from *The Technical Report*, whereby the rejection under 35 U.S.C. §103 should be reversed. Favorable action by the Board is respectfully requested.

A. The Present Invention

As defined by independent claims 157 and 169, the fire-extinguishing methods according to the present invention comprise providing a fire-extinguishing agent consisting essentially of an azeotropic or near azeotropic blend of fluoroiodocarbon and at least one additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers, in a discharge apparatus, and discharging a fire-extinguishing amount of the agent from the discharge apparatus into contact with a combustible or flammable material. According to claims 170 and 177, the methods comprise providing a fire-extinguishing agent comprising a blend of a fluoroiodocarbon and at least one additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers, in a discharge apparatus, and discharging a fire-extinguishing amount of the agent from the discharge apparatus into contact with a combustible or flammable material. Claims 169 and 177 each specify a group of compounds from which the fluoroiodocarbon component of the blend is selected.

Claims 158, 178 and 179 are directed to preferred embodiments of the fluoroiodocarbon employed in the method of claim 157, and claims 160-165 are directed to preferred embodiments of both the fluoroiodocarbon and the additive employed in the method of claim 157. Claims 166 and 167 are directed to preferred embodiments of the additive employed in the method of claim 157. Claim 171 is directed to preferred embodiments of the fluoroiodocarbon employed in the method of claim 170, claims 172 and 173 are directed to preferred embodiments of the

fluoroiodocarbon and the additive employed in the method of claim 170 and claims 174 and 175 are directed to preferred embodiments of the additive employed in the method of claim 170.

As set forth in the present specification, for example at page 17, lines 15-32, the methods of the present invention are advantageous in that they employ effective fire-extinguishing agents which are non-ozone-depleting. The methods of claims 157 and 169, and the claims dependent thereon, are further advantageous in that use of azeotropic and near azeotropic blends permit simplified handling of the fire-extinguishing agent employed in the claimed methods and the agent does not fractionate into separate components over time.

B. The Claimed Methods are Patentable Over *The Technical Report*

The methods according to claims 157, 158, 160-167, 169-175 and 177-179 are neither taught nor suggested by *The Technical Report*. Specifically, *The Technical Report* describes a study, research and investigation for the development of a fire-extinguishing agent with fire-fighting characteristics equal to or superior to methyl bromide (page 1, Abstract). Numerous halogenated compounds were evaluated during the described investigation including, inter alia, several fluoroiodocarbon compounds. However, Applicants find no teaching or suggestion in *The Technical Report* relating to mixtures of fluoroiodocarbon compounds with one or more hydrofluorocarbons, perfluorocarbons or fluoroethers.

The Examiner has specifically referred to pages 39-43 of *The Technical Report*. At pages 39-43, the binary mixtures which are discussed are mixtures of ethyl bromide and methyl iodine, ethyl bromide and methylene chloride, and carbon tetrachloride and trichloroethylene. No binary mixtures containing a fluoroiodocarbon are found. Table VI at page 43 discloses binary mixtures of CH_2Br_2 and each of CBr_3F , $\text{C}_6\text{F}_{11}\text{C}_2\text{F}_5$, $\text{CH}_3\text{CH}_2\text{Br}$, CCl_4 and CHCl_3 . No binary mixtures containing a fluoroiodocarbon are found. At page 62, Table VII, *The Technical Report* discloses binary mixtures of CH_3Br and SF_6 , of CH_3Br and C_4F_{10} , of CH_3Br and $\text{C}_2\text{H}_5\text{Br}$, of CH_3I and

C₂H₅Br, of CH₂Cl₂ and C₂H₅Br, of CClF₃ and C₂H₅Br, and of CCl₄ and CCl₂=CClH. Again, no binary mixtures containing a fluoroiodocarbon compound are found in Table VII at page 62.

Not only do Applicants find no teaching or suggestion in *The Technical Report* relating to any binary mixtures containing fluoroiodocarbon compounds, particularly in combination with a hydrofluorocarbon, a perfluorocarbon or a fluoroether as required by present claims 157, 169, 170 and 177, *The Technical Report* specifically states in the paragraph bridging pages 2 and 3:

Several binary mixtures of halogen compounds were used as fire retarding agents on mixtures of n-pentane and air. This preliminary study indicated that in certain instances the use of a mixture of halogen-containing compounds is advantageous. The actual effectiveness appeared to be characteristic of the particular mixture used. Hence, no generalizations can be made regarding choice of constituents in the mixture.

Additionally, with respect to the specific binary mixtures set forth in Table VII at page 62, some of the mixtures are disclosed as providing improved fire-extinguishing effects while some of the mixtures are disclosed as providing inferior fire-extinguishing properties. Thus, *The Technical Report* provides no overall motivation for successful combination of any of the single compounds disclosed therein. Specifically, Applicants find no teaching or suggestion in *The Technical Report* as to whether or not any improvement would be provided by methods using fire-extinguishing agents comprising the blends which are presently claimed.

Additionally, Applicants find no teaching or suggestion in *The Technical Report* relating to methods using a fire-extinguishing agent consisting essentially of an azeotropic or near azeotropic blend of fluoroiodocarbons and at least one additive consisting of the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers as set forth in claims 157 and 169. The Examiner asserts that because *The Technical Report* refers to a binary mixture as having a boiling point, the reference implies that an azeotropic blend or near azeotropic blend is contemplated. However, there is nothing in the record to support this assertion by the Examiner and particularly,

there is nothing in the record to indicate that *The Technical Report* refers to anything other than a boiling range exhibited by a binary mixture.

Claims 158, 169, 178 and 179 are further patentably distinguishable from *The Technical Report* in that each of these claims further specifies the fluoroiodocarbon included in the azeotropic or near azeotropic blend employed in the claimed method. Applicants find no teaching or suggestion in *The Technical Report* relating to azeotropic or near azeotropic blends containing a fluoroiodocarbon as defined in any of claims 157, 169, 178 or 179. Thus, these claims are further distinguishable from *The Technical Report*.

Claims 160-165 are each directed to a method employing an azeotropic or near azeotropic blend of a specified fluoroiodocarbon and a specified additive. Particularly, the method of claim 160 employs a fire-extinguishing agent consisting essentially of an azeotropic or near azeotropic blend of CF_3I (trifluoroiodomethane) and an additive comprising trifluoromethane. Claims 161-164 define similar methods wherein the additive comprises pentafluoroethane, 1,1,1,2-tetrafluoroethane, 1,1,1-trifluoroethane and perfluorobutane, respectively. Claim 165 is directed to a method employing a fire-extinguishing agent consisting essentially of an azeotropic or near azeotropic blend of $\text{CF}_3\text{CF}_2\text{CF}_2\text{I}$ and perfluorohexane. Applicants find no teaching or suggestion in *The Technical Report* relating to methods employing a fire-extinguishing agent consisting essentially of an azeotropic or near azeotropic blend of components as recited in any of claims 160-165. Thus, these claims are further patentably distinguishable from *The Technical Report*.

Claim 166 is directed to a method according to claim 157 wherein the additive comprises a hydrofluorocarbon selected from a specified group of compounds, while claim 167 is directed to the method of claim 157 wherein the additive comprises a perfluorocarbon selected from a specified group of compounds. Applicants find no teaching or suggestion in *The Technical Report* relating to methods employing a fire-extinguishing agent consisting essentially of an

azeotropic or near azeotropic blend of a fluoroiodocarbon and a hydrofluorocarbon selected from the group specified in claim 166 or a perfluorocarbon selected from the group specified in claim 167. Thus, the methods of claims 166 and 167 are further patentably distinguishable from *The Technical Report*.

Similarly, independent claim 170 is directed to a method employing a fire-extinguishing agent comprising a blend of a fluoroiodocarbon and at least one additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers. Applicants find no teaching or suggestion in *The Technical Report* relating to such blends, independent of whether or not they include additional components. Thus, claim 170 is also patentably distinguishable from *The Technical Report*.

Claims 171 and 177 are further distinguishable from *The Technical Report* in that these recite methods which employ a fire-extinguishing agent comprising a blend of a fluoroiodocarbon selected from a specified group. Applicants find no teaching or suggestion by *The Technical Report* relating to a blend of any of the fluoroiodocarbons specifically set forth in claims 171 or 177 and an additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers. Thus, these claims are further patentably distinguishable from *The Technical Report*.

Claims 172 and 173 are also further distinguishable from the cited reference in that each of these claims requires the use of a specific fluoroiodocarbon and an additive selected from a more specific group. That is, according to each of these claims, the fluoroiodocarbon comprises CF_3I while according to claim 172, the additive is selected from the group consisting of trifluoromethane, pentafluoroethane, 1,1,1,2-tetrafluoroethane and 1,1,1-trifluoroethane and according to claim 173, the additive comprises perfluorobutane or perfluorohexane. Applicants find no teaching or suggestion in *The Technical Report* relating to methods employing the

specific blends required by either of claims 172 or 173. Thus, the methods of these claims are further distinguishable from *The Technical Report*.

Finally, claims 174 and 175 are further distinguishable from *The Technical Report* in that they require the use of an additive comprising a hydrofluorocarbon selected from a specified group (claim 174) or a perfluorocarbon selected from a specified group (claim 175). Applicants find no teaching or suggestion in *The Technical Report* relating to methods employing a fire-extinguishing agent comprising a fluoroiodocarbon and either a hydrofluorocarbon as specified in claim 174 or a perfluorocarbon as specified in claim 175. Thus, these claims are further patentably distinguishable from *The Technical Report*.

The Examiner has acknowledged that *The Technical Report* states that “no generalizations can be made regarding the choice of the constituents in the mixture,” but the Examiner asserts that such is not deemed to teach away from the presently claimed invention. However, in order for the presently claimed methods to be patentable, it is not necessary that Applicants demonstrate that the prior art teaches away from the claimed invention. Rather, in order for the Examiner to establish nonpatentability of the present methods, the Examiner has the burden to show that the asserted modification of the prior art is suggested as desirable by the prior art. In view of *The Technical Report*’s conclusion that no generalizations could be made regarding choice of constituents in binary mixtures, *The Technical Report* does not suggest any desirability for providing the specific blends employed in the present methods, namely fluoroiodocarbons and at least one hydrofluorocarbon, perfluorocarbon or fluoroether. Thus, the Examiner has not met the burden of establishing the prima facie case of obviousness based on *The Technical Report*.

It is impermissible within the framework of Section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts

necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art, *In re Wesslau*, 147 U.S.P.Q. 391 (CCPA 1965). Thus, it is impermissible to rely on the specific binary mixtures taught in *The Technical Report* in order to conclude that *The Technical Report* renders obvious the presently claimed methods, while ignoring the conclusion of *The Technical Report* itself that no generalizations can be made with respect to the choice of constituents in a fire-fighting mixture. Rather, when *The Technical Report* is viewed in its entirety, it is clear that *The Technical Report* does not teach or suggest to one of ordinary skill in the art the blends employed in the present claims or any desirability with respect to use of the blend compositions as recited in the present claims for firefighting purposes.

When a selective combination of prior art teachings is necessary to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself; not only must the claimed invention be evaluated as a whole, but so also must the references so that their teachings are applied in the context of the significance to a technician at the time of the invention, *Interconnect Planning Corp. v. Feil*, 222 U.S.P.Q. 543 (Fed. Cir. 1985). As noted above, *The Technical Report* provides no guidance for the combination of the fluoroiodocarbon compound and at least one of a hydrofluorocarbon, a perfluorocarbon and a fluoroether. Rather, *The Technical Report* discloses only a few specific binary mixtures and concludes that no generalization concerning the effectiveness of binary mixtures can be made from the limited investigations conducted by the authors.

The Examiner has relied on *In re Kerkhoven*, 205 U.S.P.Q. 1069 (CCPA 1980) for the proposition that it is not patentable to employ two or more materials in combination for the same purpose for which they are taught to be individually useful. However, the Examiner's reliance on *In re Kerkhoven* is inappropriate in the present application where the cited prior art itself teaches that the effectiveness of binary mixtures is unpredictable in view of the respective

properties of the individual materials. Where the prior art specifically teaches that some mixtures exhibit improvement while other mixtures exhibit a decrease in performance, as the results in Table VII at pages 62-63 of the *Technical Report* indicate, *In re Kerkhoven* is not applicable.

The Examiner has also stated that Applicants have not shown superior or unexpected results for their particular fire-extinguishing admixtures over those directly taught by *The Technical Report*. However, a showing of unexpected results is not necessary where the Examiner has not established a prima facie case of nonobviousness. As noted above, in the absence of any suggestion in the prior art relating to the specific blends recited in the claims or relating to a desirability of the presently claimed blends for use in fire-fighting, the Examiner has not established a prima facie case of obviousness with respect to the presently claimed methods employing such blends for fire extinguishing or fire suppressing purposes.

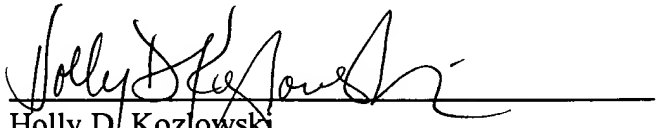
At most, in view of the teachings set forth in the 332 pages of *The Technical Report*, one skilled in the art might find it obvious to try various combinations of the numerous compounds disclosed therein. However, "obvious to try" is not the standard for negating patentability under 35 U.S.C. §103, *In re Geiger*, 2 U.S.P.Q. 2d 1276 (Fed. Cir. 1987); *In re O'Farrell*, 7 U.S.P.Q. 2d 1673 (Fed. Cir. 1988). Particularly, *The Technical Report* provides no suggestion that blends of a fluoriodocarbon compound with at least one additive selected from the group consisting of hydrofluorocarbons, perfluorocarbons and fluoroethers as presently claimed are suitable for use as fire extinguishing agents in fire extinguishing or fire suppression methods as now claimed.

Accordingly, *The Technical Report* does not render obvious the methods of the present claims, whereby the rejection under 35 U.S.C. §103 should be reversed.

IX. CONCLUSION

For the reasons set forth in detail above, the methods of claims 157, 158, 160-167, 169-175 and 177-179 are nonobvious over and patentably distinguishable from *The Technical Report* and the rejection under 35 U.S.C. §103 should be reversed. Favorable action by the Board is respectfully requested.

Respectfully requested,



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